

REMARKS

In the outstanding Office Action mailed February 11, 2002, claims 1-18 were rejected. Claims 4, 12 and 14 have been cancelled. Claims 1-3, 5-11, 13 and 15-18 remain pending. New claims 19-35 have been added

Response to 35 USC 112 Rejection:

Claim 14 was rejected as being indefinite under 35 USC 112, second paragraph. Claim 14 has been cancelled.

Response to 35 USC 102 Rejection:

Claims 1, 4, 8-12 and 16-18 were rejected as being anticipated by Ritchey et al. 5,628,549. The applicant respectfully submits that amended claims 1, 10 and 18, and their dependent claims 6-13, 16 and 18-20, are not anticipated by Ritchey et al. For a proper 35 USC 102 rejection, each and every element recited in the claims must be explicitly disclosed in the reference. Claims 1 and 18, as amended, recite that a portion of the wear sleeve that is adapted to be received in the bit holder has a tapered forward portion. Upon inspection of the wear sleeve 114 in Ritchey et al. '549, the portion of the sleeve in Ritchey et al. at 132 that is received in the block bore 124 is not tapered, but cylindrical. The large forward tapered head 128 is connected to the smaller diameter cylindrical section that fits into the block bore. As can be seen in the figures, a rounded fillet forms the transition between the large forward head 128 and the rearward portion 132 in Ritchey et al. The head 128 does not fit into the bore, and there is no forward portion that is tapered in Ritchey et al. that is adapted to be received in the bit holder. Accordingly, it is respectfully submitted that claims 1, 10 and 18 are not anticipated by Ritchey et al. '549 and, therefore, the rejection should be withdrawn. In a like manner, independent claim 10 has been amended, and it is submitted for reasons similar to the above, claim 10 should also be allowed over Ritchey et al.

With regard to claims 8 and 16, the examiner apparently avers that surface 184 in figures 6 and 10 of Ritchey et al. meet applicant's claimed recitation of beveled end portions. Claim 8 recites that the "end portions" of the sleeve are angled inward as opposed to Ritchey et al., which discloses interior surfaces that are not angled inward toward the central axis of the retainer but run parallel to the central axis of the sleeve. See the interior surfaces of the sleeves, figures 6 and 10, in Ritchey et al., at 173 and 220, respectively. The two ends of the cylindrical sleeves in Ritchey et al. have exterior surfaces that are beveled (chamfered), but the end portions of these two surfaces are not angled inward. In addition, the chamfered surfaces in Ritchey et al. do not bias the retainer outward once compressed, as recited in claims 8 and 16. The end portions in applicant's claimed invention help bias the retainer away from the wear sleeve toward the block bore.

With respect to claims 9 and 17, the Examiner avers that the beveled portion in Ritchey et al. is initially 25 degrees. The Examiner is requested to please cite text in the Ritchey et al. specification that discloses a beveled portion of 25 degrees. Upon inspection, the chamfer 184 appears to be angled at 45 degrees with respect to the central axis of the sleeve.

Claims 1-7, 10-15 and 18 were rejected as being anticipated by Stewerf, Jr. 5,370,448. Independent claims 1, 10 and 18 have now been amended. The applicant respectfully submits that amended claims 1, 10 and 18, and their dependent claims 2-7 and 11-14, are not anticipated by Stewerf, Jr. The Stewerf, Jr. patent discloses an annular groove 31 having a split annular ring 32 fixed therein, see column 7, lines 40-65. The ring 32 in Stewerf, Jr. does not cooperate with the bore of the bit holder in Stewerf, Jr. As seen in figure 1, the ring 32 when the wear sleeve is in its operational assembled position is external to the bore of the bit holder 30/29. In applicant's amended

claims 1, 10 and 18, the retainer is recited as being biased against the bit holder whenever the wear sleeve is hammered into position. Accordingly, it is respectfully submitted that claims 1, 10 and 18 are not anticipated by Stewerf, Jr. '448, as not all of the recited claim limitations are disclosed in Stewerf, Jr. Therefore, this rejection should be withdrawn.

Claims 10 and 13 were rejected as being anticipated by Galorneau 3,143,177. Galorneau discloses an annular groove portion at 37, but claim 10 as amended also recites a retainer which is not disclosed in Galorneau 3,143,177. Accordingly, it is submitted that, since Galorneau does not disclose a retainer, claim 10 is not anticipated by Galorneau under 35 USC 102.

Claim 14, which was rejected under 35 USC 103 as being obvious in view of Galorneau, as there is no suggestion or teaching in Galorneau to incorporate a retainer with the annular groove. Galorneau teaches away from using a retainer with the holder since the groove at 37 was deliberately designed for the purpose of reducing friction between the bore and holder, see column 2, lines 24-36, in Galorneau. To modify Galorneau to include a retainer would increase the amount of friction between the holder and block bore. Therefore, it is believed that a rejection of the claims under 35 USC 103 in view of Galorneau would be improper.

New claim 19 in general includes subject matter similar in scope to original claim 5, except that new claim 19 does not recite the wear sleeve as having an outer surface. New claims 21-35 are also submitted for consideration by the examiner and are believed to include subject matter patentable over the prior art.

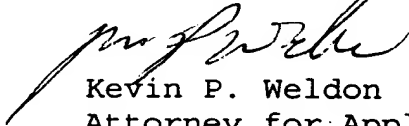
In view of the remarks, and above amendments and arguments, it is believed that claims 1-3, 5-11, 13 and 15-35 are patentable over the art of record. Thus, applicant respectfully requests a Notice of Allowance indicating claims 1-3, 5-11, 13 and 15-35 as being allowable. If for any reason the examiner does not believe that the application is in condition for

allowance, the examiner is requested to telephone applicant with any comments or questions (724-539-3848) in order to expedite prosecution of the application.

Applicants petition for an Extension of Time of three months, from February 11, 2002. Please charge fees to Deposit Account 11-0508.

The Commissioner is hereby authorized to charge any fees, including additional filing fees required under 37 CFR 1.16 and 1.17, in connection with this submission to Kennametal Inc. corporate Deposit Account 11-0508.

Respectfully submitted,



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RESPONSE TO OFFICE ACTION

(Version with markings to show changes made)

IN THE SPECIFICATION:

Page 6, line 30, through page 7, line 5:

In figure 2 the wear sleeve is shown inserted in the receiving cavity of the bit holder. The bit holder block has its forward end adjacent the cutting tool a 5.5 - 7.0 degree (angle w) tapered cavity bore, and at a rearward end of the bit holder cavity bore a cylindrical section ~~for receiving~~ adapted to be received in a manufactured rearward disc end portion 22 of the wear sleeve, the cylindrical section reduces fish-tailing. The wear sleeve has a complimentary tapered forward end portion 20 that is adapted to be received in the tapered forward end portion of the cavity bore 16.

Page 7, line 6 through line 10:

The wear sleeve has an external portion 34 that extends outwardly beyond the front face of the bit holder block. The other portion of the wear sleeve is adapted to be received in the bit holder. This portion includes the forward tapered portion 20, groove section 24, retainer 26 and rearward disc end portion 22 which fit into the bit holder 10 cavity bore. This external portion of the wear sleeve includes a shoulder 32 for grasping, leveraging and prying against in order to remove the wear sleeve.

Page 9, line 5 through line 16:

The shoulder 32 is axially spaced from the forward tapered portion 20 of the wear sleeve. Between the forward tapered portion 20 of the wear sleeve and shoulder 32 is a rounded undercut section 30. The undercut section 30 forms a preferential fail point on the wear sleeve whenever the cutting tool is subjected to abnormally high operating loads. The failure of the wear sleeve at the undercut prevents an expensive bit

holder from failing (breaking) or being knocked off the drum. Replacement of blocks is more expensive than replacing wear sleeves and welding of blocks back onto a drum, for instance, is more time consuming than hammering a replacement wear sleeve into place.

IN THE CLAIMS:

1. (Amended) An apparatus for mounting a cutting tool used in mining, road working or earth moving comprising: a bit holder, a protective wear sleeve for reducing wear between the cutting tool and said bit holder, said protective wear sleeve having ~~an outer surface~~ an external portion and a portion that is adapted to being received in said bit holder, said wear sleeve portion that is adapted to be received including a rearward disc end portion, an annular groove portion and a forward tapered portion, and a retainer, wherein when said wear sleeve is hammered into position inside said bit holder, said retainer is biased outwards against said bit holder, whereby once said protective wear sleeve is set in said bit holder by axial blows with a hammer, said protective wear sleeve will remain in said bit holder without relative rotational or axial movement between said protective wear sleeve and said bit holder.

3. (Amended) The apparatus according to claim 2 ~~further comprising: wherein said a retainer is~~ positioned around said annular groove of the wear sleeve.

7. (Amended) The apparatus ~~of~~ according to claim 1 wherein the ~~wear sleeve has an external portion is adjacent to the forward tapered portion, that extends beyond said bit holder~~ said wear sleeve external portion has a shoulder and a rounded undercut portion between said shoulder and said forward tapered portion of said wear sleeve, whereby when said wear sleeve is subjected to large loads and torques, the rounded undercut portion weakens and fails first.

8. (Amended) The apparatus according to claim 4-1 wherein said retainer is generally a cylindrical split sleeve retainer having beveled portions at both ends of said cylindrical retainer, whereby said beveled end portions compress when inserted into said bit holder, said beveled ends help bias said cylindrical split sleeve outwardly away from said wear sleeve.

10. (Amended) ~~An~~ A joint coupling comprising:
a female member,
a male member,

said male member having ~~an outer surface an~~
external portion and a portion that is adapted to being
received in said female member, said male member portion
that is adapted to be received including a rearward disc
end portion, an annular groove portion, and a forward
tapered portion and a retainer,

wherein when said male member is hammered into
position inside said female member, said retainer is
biased outwards against said female member,

whereby once said male member is set in said female member, said male member will remain in said female member without relative rotational or axial movement between said male member and said female member.

11. (Amended) The joint coupling according to claim 10 ~~further comprising: a~~ wherein said retainer is
positioned around said annular groove of the male member.

15. (Amended) The joint coupling according to claim 10 wherein the ~~male member has an~~ external portion is adjacent to the forward tapered portion ~~that extends beyond said female member,~~ said male member external portion has a shoulder and a rounded undercut portion between said shoulder and said forward tapered portion of said male member, whereby when said male member is subjected to large loads and torques the rounded undercut portion weakens and fails first.

18. (Amended) A cutting tool assembly comprising:

a bit holder,

a protective wear sleeve for reducing wear between the cutting tool and said bit holder,

said protective wear sleeve having ~~an outer surface~~ an external portion and a portion that is adapted to being received in said bit holder, said wear sleeve portion that is adapted to be received including a rearward disc end portion, an annular groove portion, a forward tapered portion and a retainer,

wherein when said wear sleeve is hammered into position inside said bit holder, said retainer is biased outwards against said bit holder,

whereby once said protective wear sleeve is set in said bit holder by axial blows with a hammer, said protective wear sleeve will remain in said bit holder without relative rotational or axial movement between said protective wear sleeve and said bit holder.